Data Processing Using Transforms and Converters
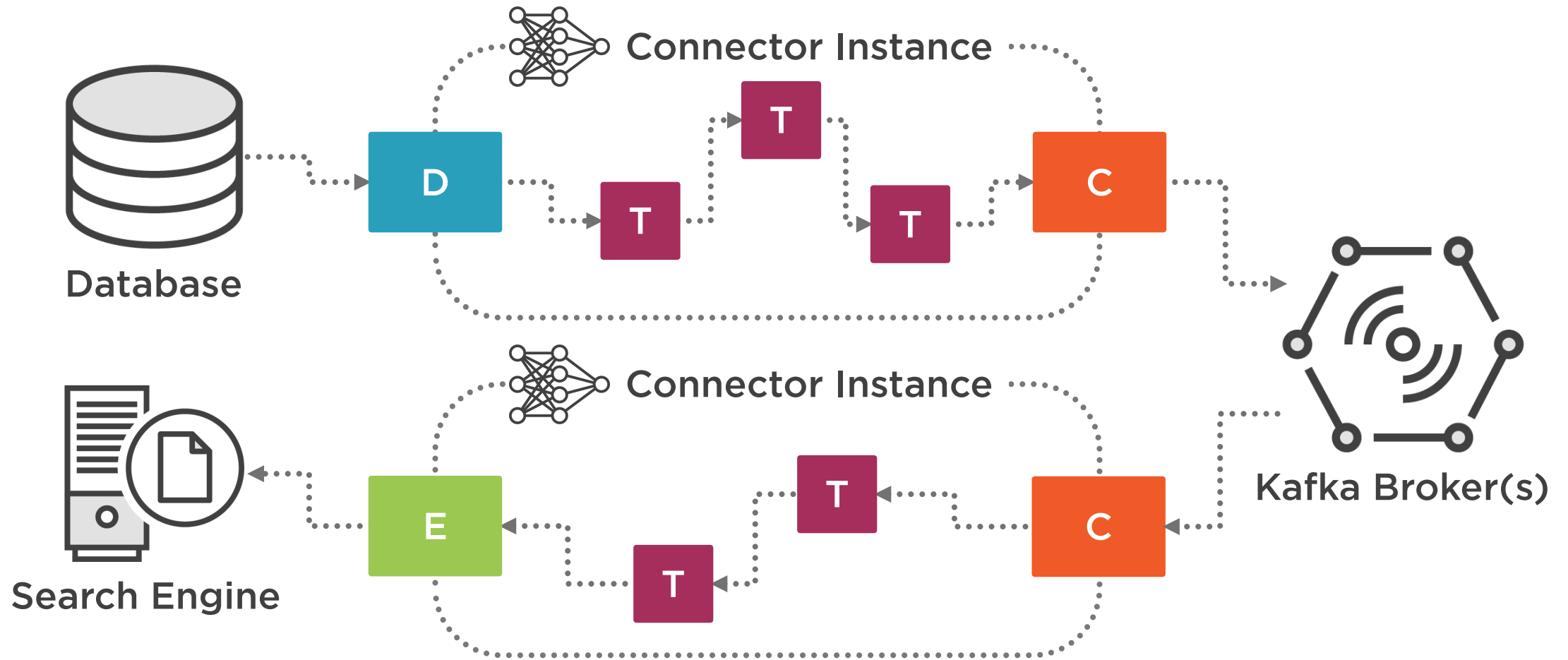
Bogdan Sucaciu
TECH LEAD @ AXUAL

@BSucaciu   bsucaciu.com

Connectors

Database

Connector Instance

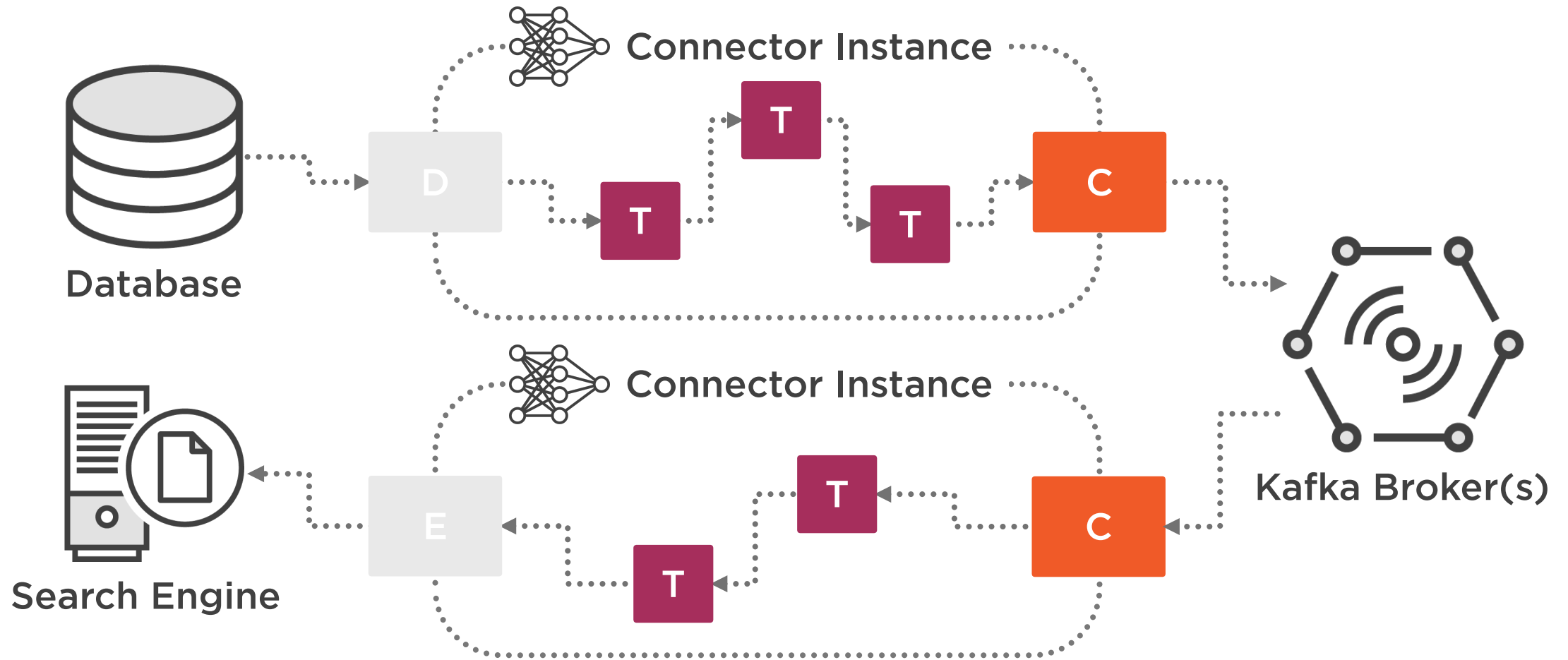Connector Instance

Search Engine

Kafka Broker(s)

D - Database Connector

E - Search Engine Connector

T - Single Message Transform (SMT)

C - Converter

Connectors

Connector Instance

Connector Instance

Database

Search Engine

Kafka Broker(s)

D - Database Connector

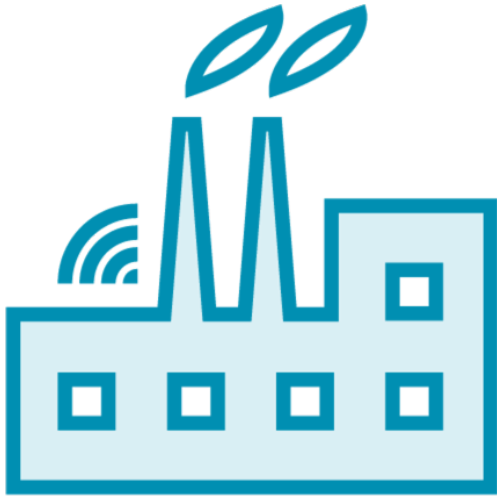E - Search Engine Connector

T - Single Message Transform (SMT)

C - Converter

Single Message Transform
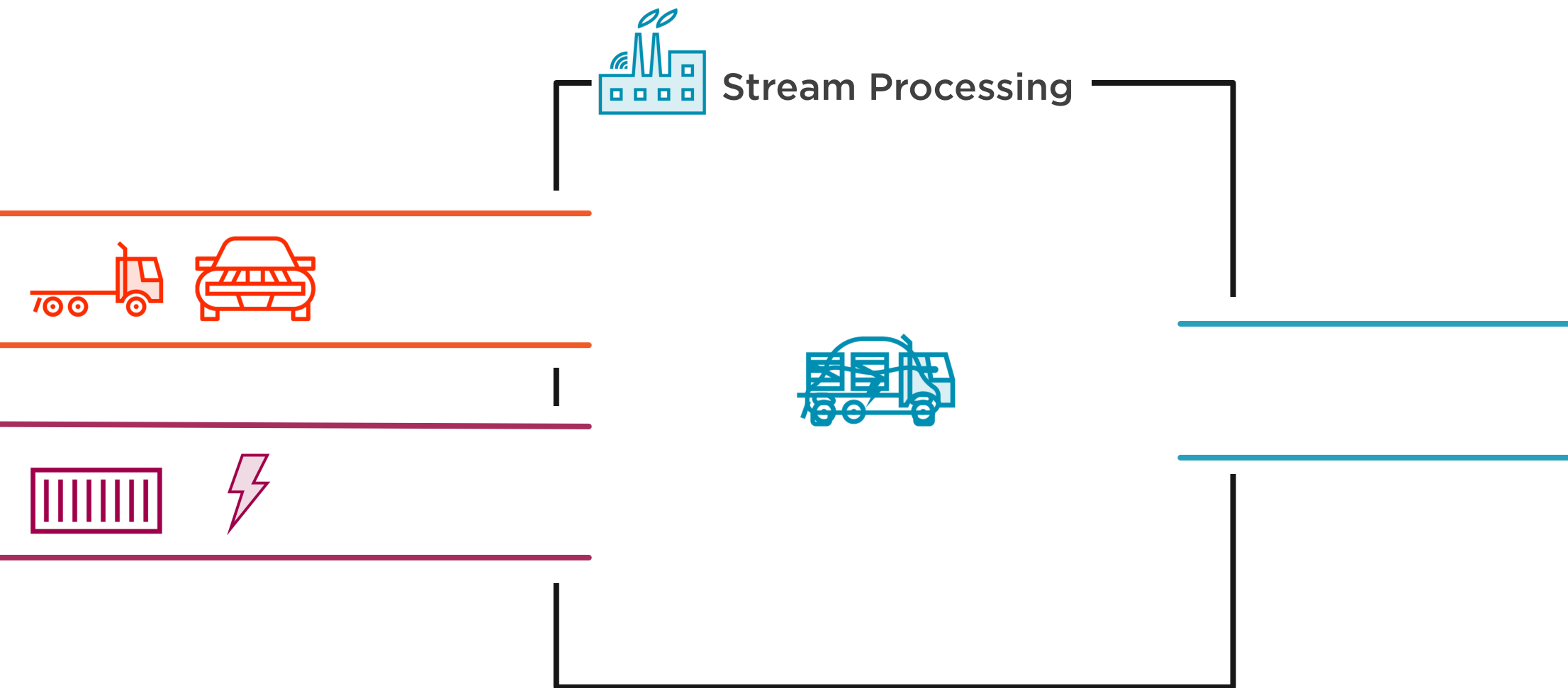
Stream vs. Message Processing

Stream Processing

Has access to multiple data streams

Message Processing

Has access to only one data stream
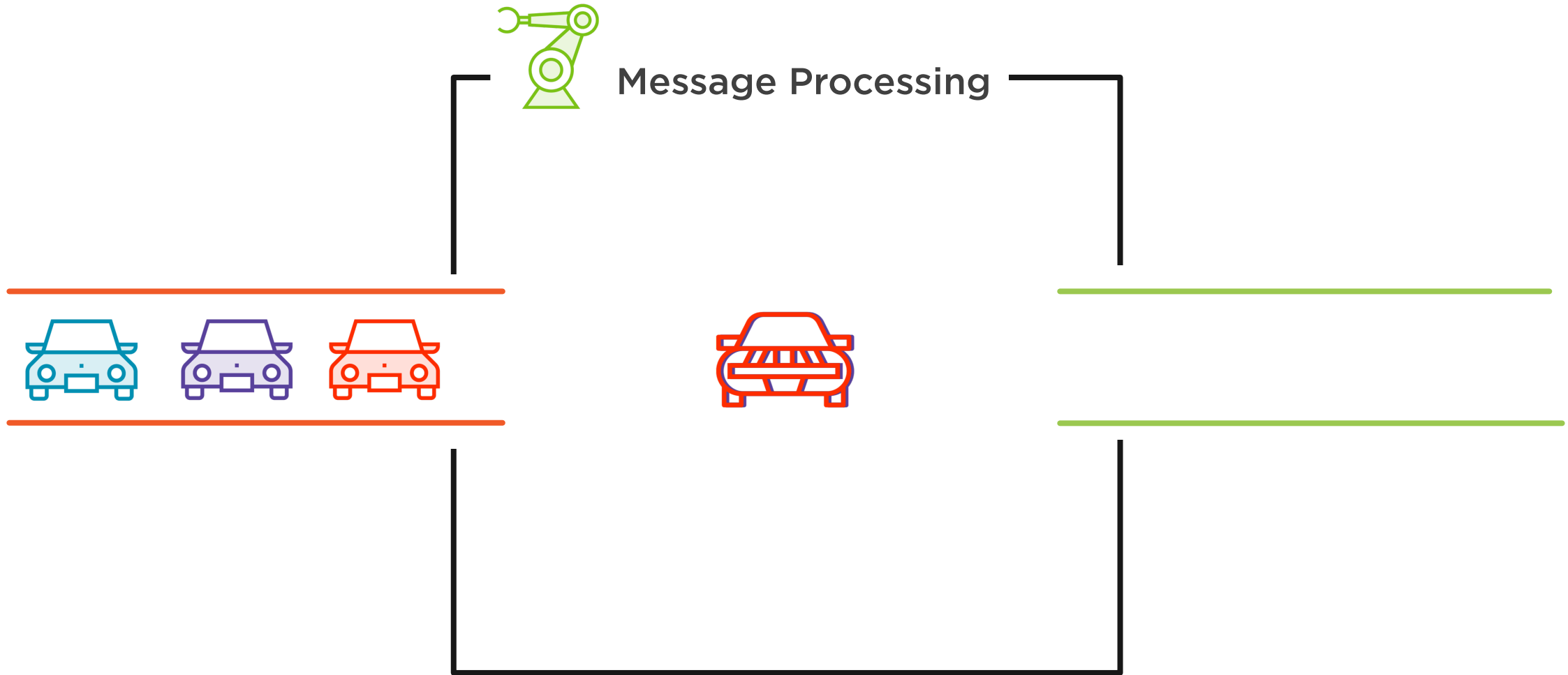
Stream Processing

Stream Processing

Stream Processing

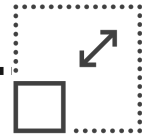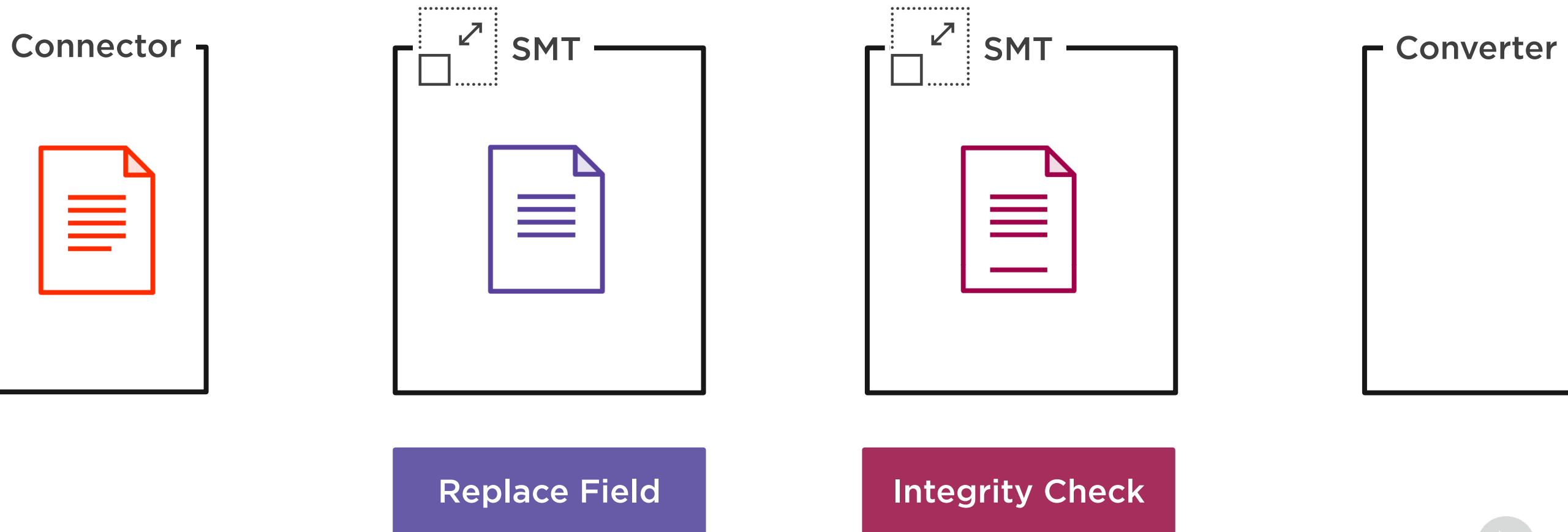|	
Joining	**Per-Message Processing**
Aggregating	**Windowing**

Message Processing

Single Message Transform

Single Message Transform

Single Message Transform (SMT) **cannot** be used for Stream Processing

Single Message Transform

Connector

SMT

SMT

Converter

Replace Field

Integrity Check
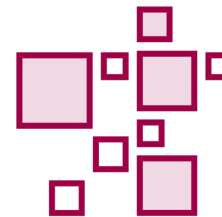
Single Message Transform
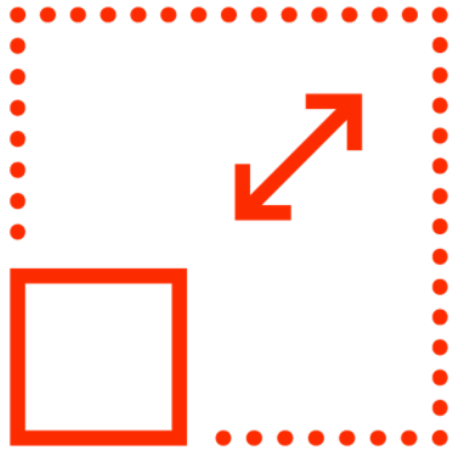
Single Message Transform

Tombstone Messages

Messages with Schema

Schemaless Messages

Demo

Building Single Message Transform
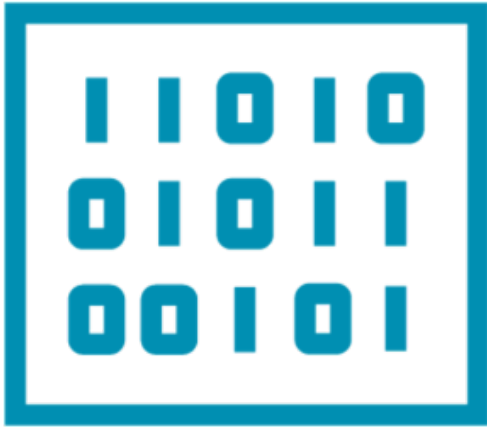
Deploying Single Message Transform

SMT:
- Replace Field
- Integrity Checker

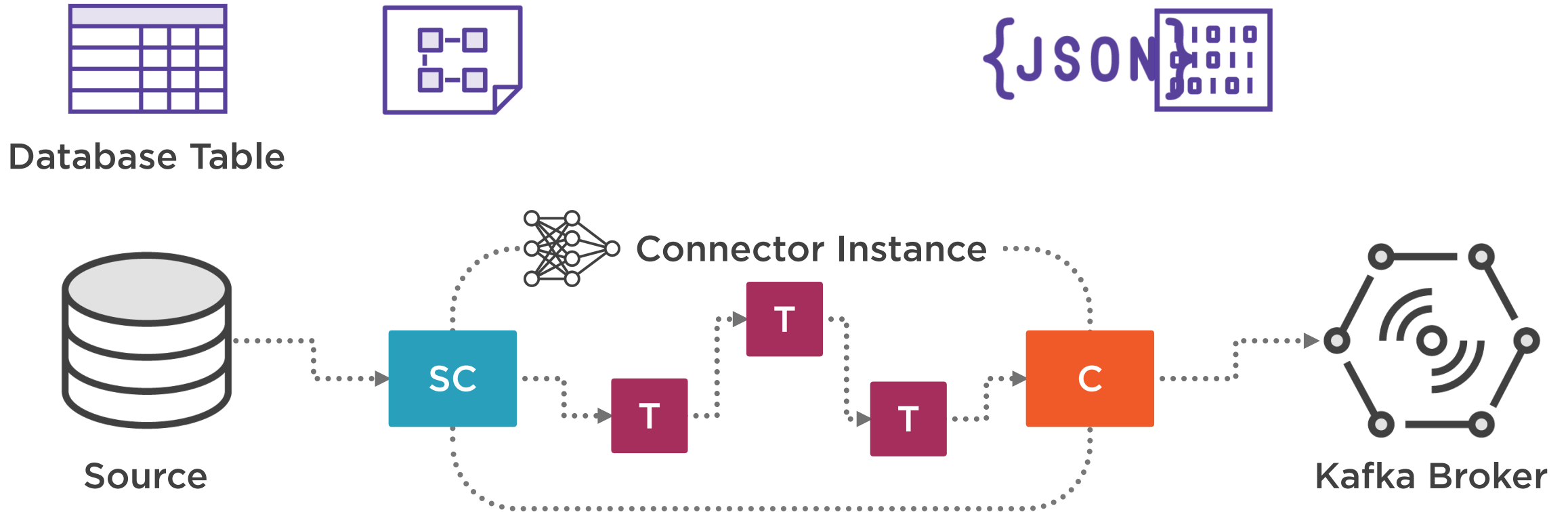# Converters

Kafka Broker Storage

Store bytes

All messages are stored in a byte[] format

NO Serialization / Deserialization

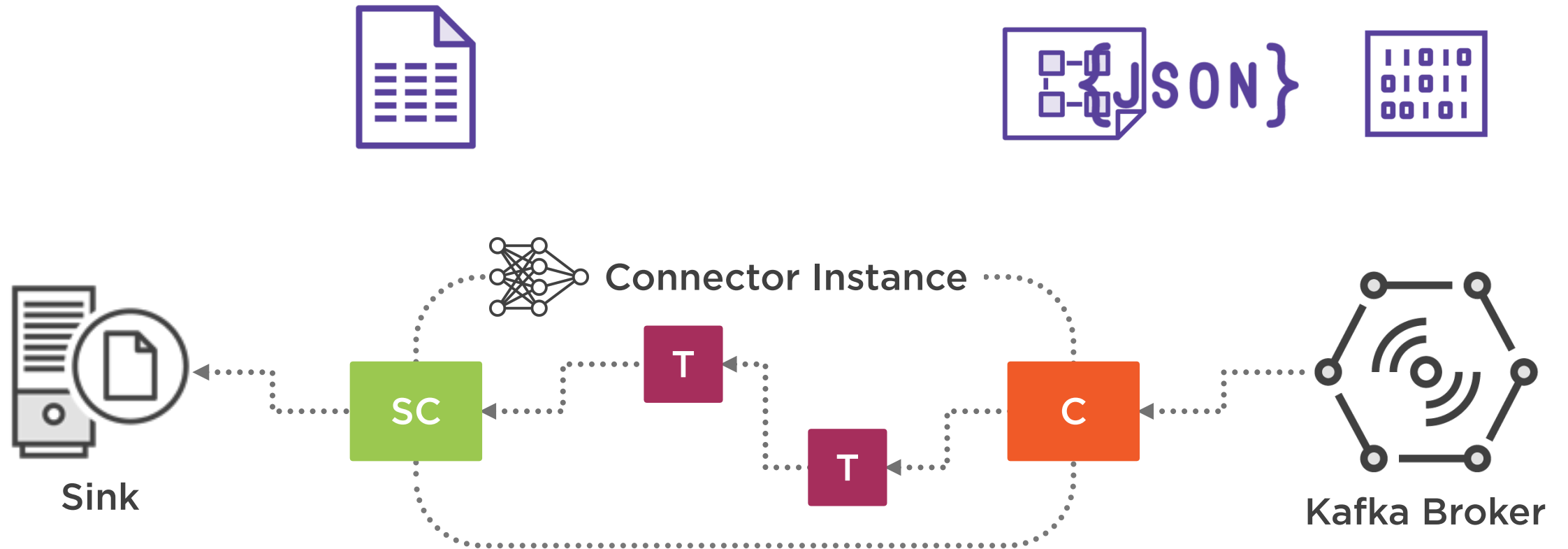Producers / Consumers would have to deal with data formats

Converters

Database Table

Source

Connector Instance

SC **T** **T** **T** **C**

Kafka Broker

SC - Source Connector   **T** - Single Message Transform (SMT)   **C** - Converter
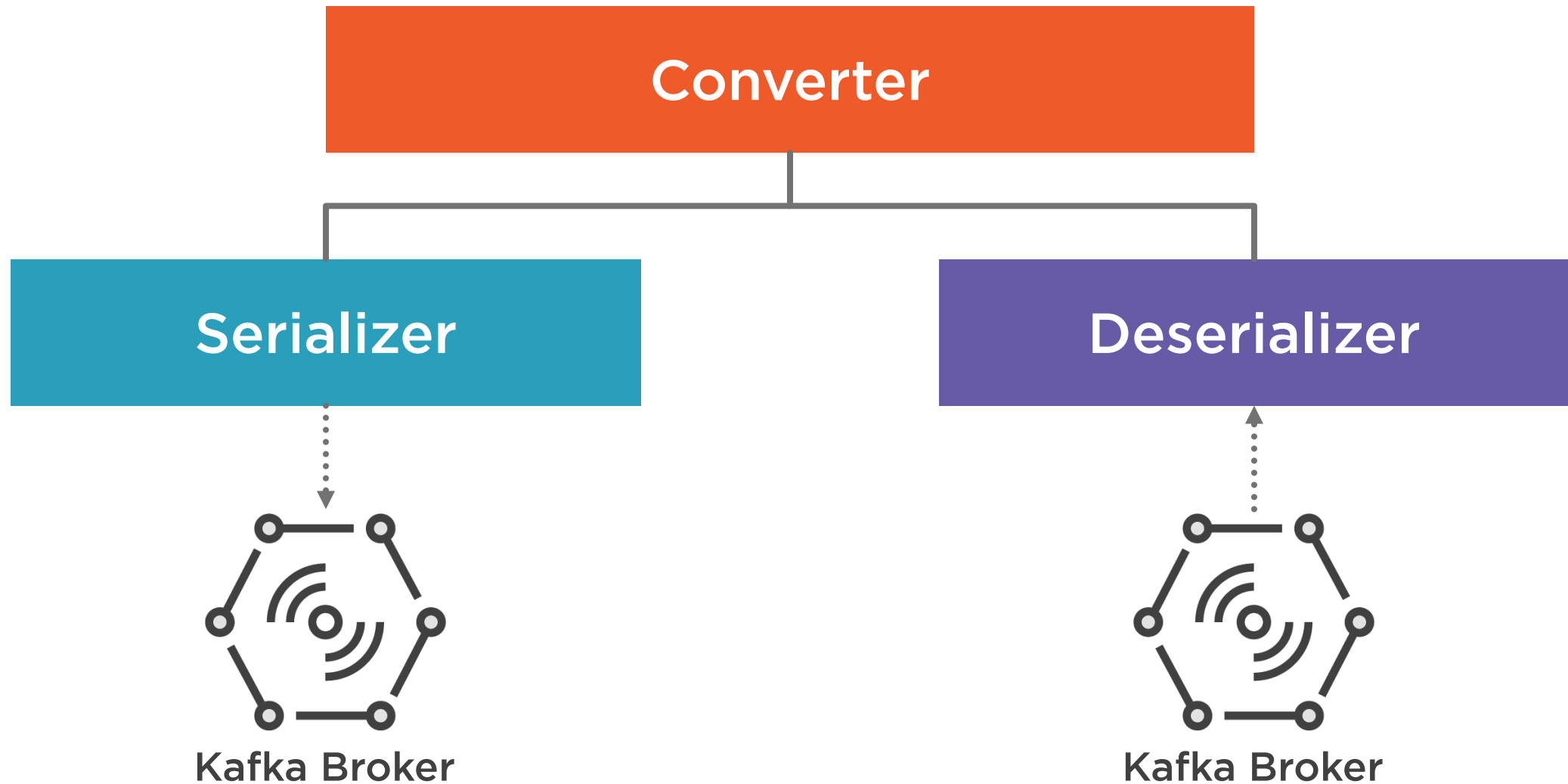
Converters

SC - Sink Connector   T - Single Message Transform (SMT)   C - Converter

Converters

Demo

String Converter

Deploy the Converter with Weather API Connector

Summary

Stream Processing vs Message Processing

Single Message Transforms

Converters